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Kuo

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(54) **SALIVA-MONITORING BIOSENSOR
ELECTRICAL TOOTHBRUSH**

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(57) **ABSTRACT**

A biosensor electrical toothbrush having a brush head with a test channel and a renewable biosensor system within the test channel for performing routine saliva tests. The brush head stimulates saliva production and collection in the test channel where measurement signals are produced by sensors. The signals are transmitted for storage and analysis to a microprocessor that provides readable data signals reflective of the presence or quantitative level of a specific component of saliva. The brush handle contains the microprocessor, a display means, a battery, a motor and a reservoir for storing a reagent which is supplied in controlled quantities to the channel during saliva testing. The toothbrush is used to detect fertility periods, pregnancy, labor onset, alcohol concentration, blood glucose concentration and indicators that signal a need for comprehensive HIV testing. A test head without bristles may be used in place of a brush head to provide a saliva-monitoring oral device which performs the same saliva tests as the electrical toothbrush. The bristles are replaced by an oral thermometer, a gum massage element or other element used for medical or dental functions.

24 Claims, 20 Drawing Sheets

